# Fig.1 PRIOR ART

# Fig. 2 PRIOR ART
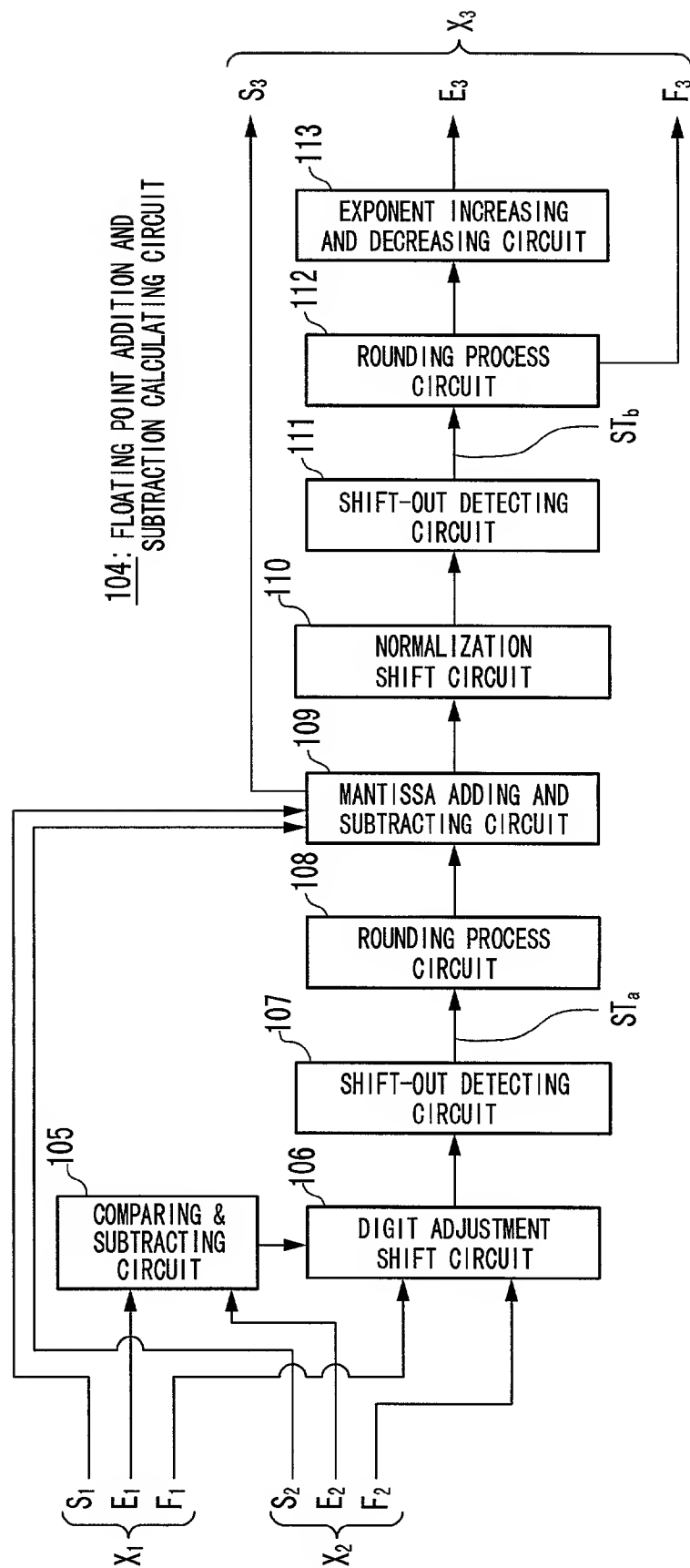
104: FLOATING POINT ADDITION AND
SUBTRACTION CALCULATING CIRCUIT

$X_1$ { $S_1$ $E_1$ $F_1$

$X_2$ { $S_2$ $E_2$ $F_2$

105 COMPARING &
SUBTRACTING
CIRCUIT

106 DIGIT ADJUSTMENT
SHIFT CIRCUIT

107 SHIFT-OUT DETECTING
CIRCUIT

$ST_a$

108 ROUNDING PROCESS
CIRCUIT

109 MANTISSA ADDING AND
SUBTRACTING CIRCUIT

110 NORMALIZATION
SHIFT CIRCUIT

111 SHIFT-OUT DETECTING
CIRCUIT

$ST_b$

112 ROUNDING PROCESS
CIRCUIT

113 EXPONENT INCREASING
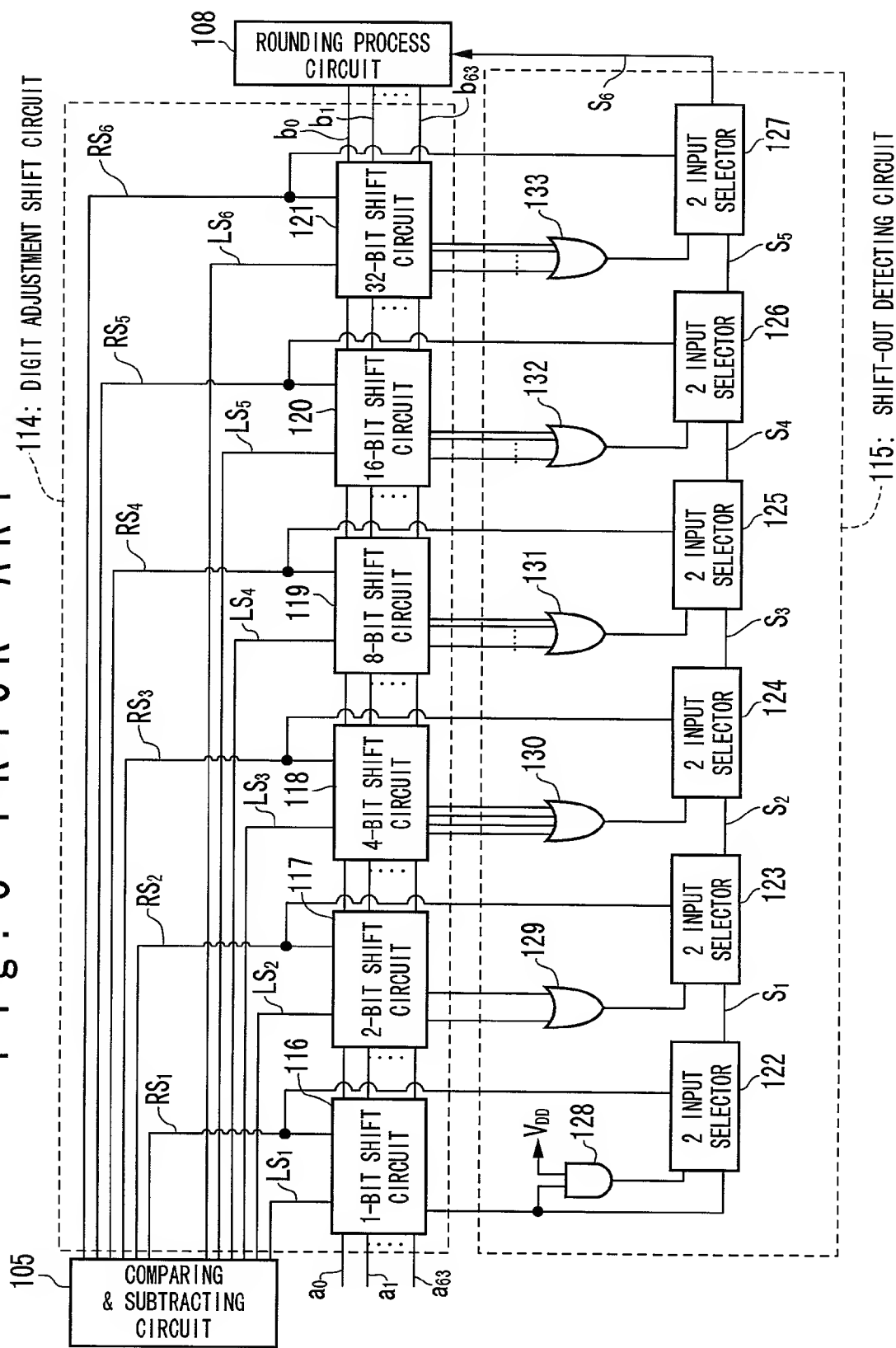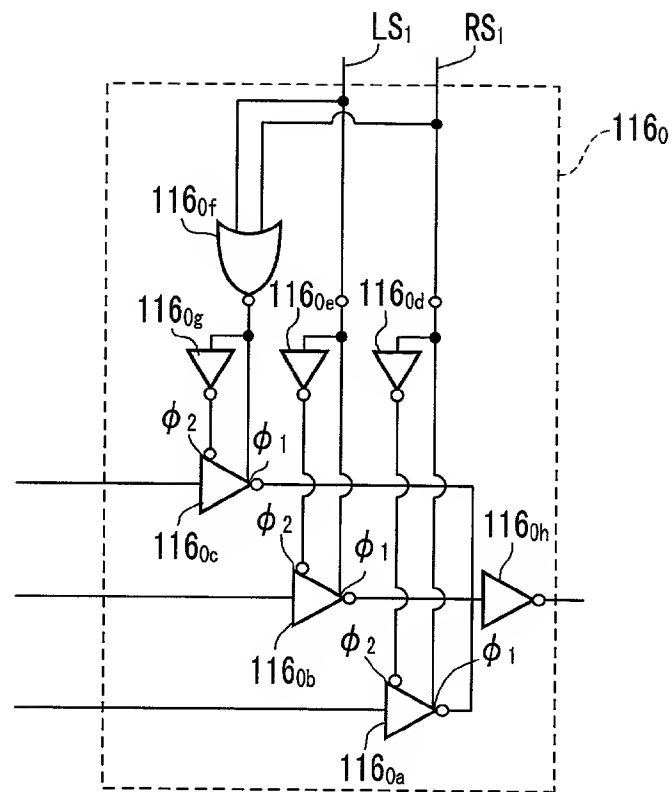AND DECREASING CIRCUIT

$X_3$ { $S_3$ $E_3$ $F_3$

Fig. 3 PRIOR ART

# Fig. 4A PRIOR ART



# Fig. 4B PRIOR ART
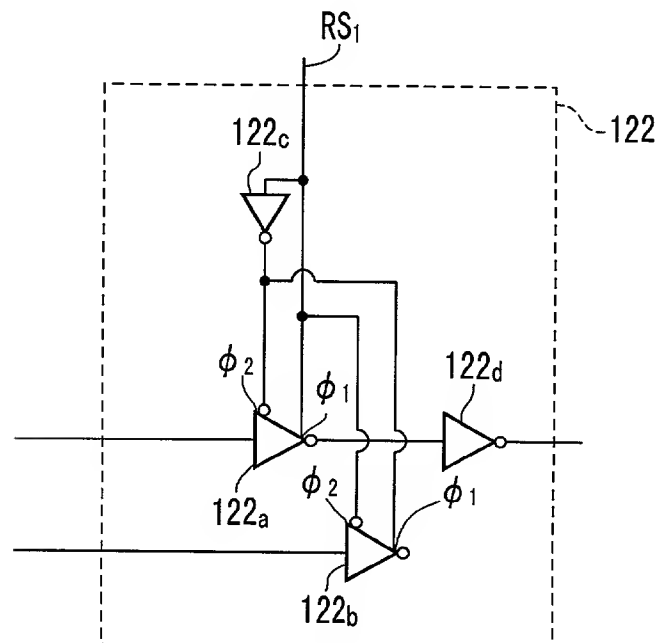
# Fig. 5
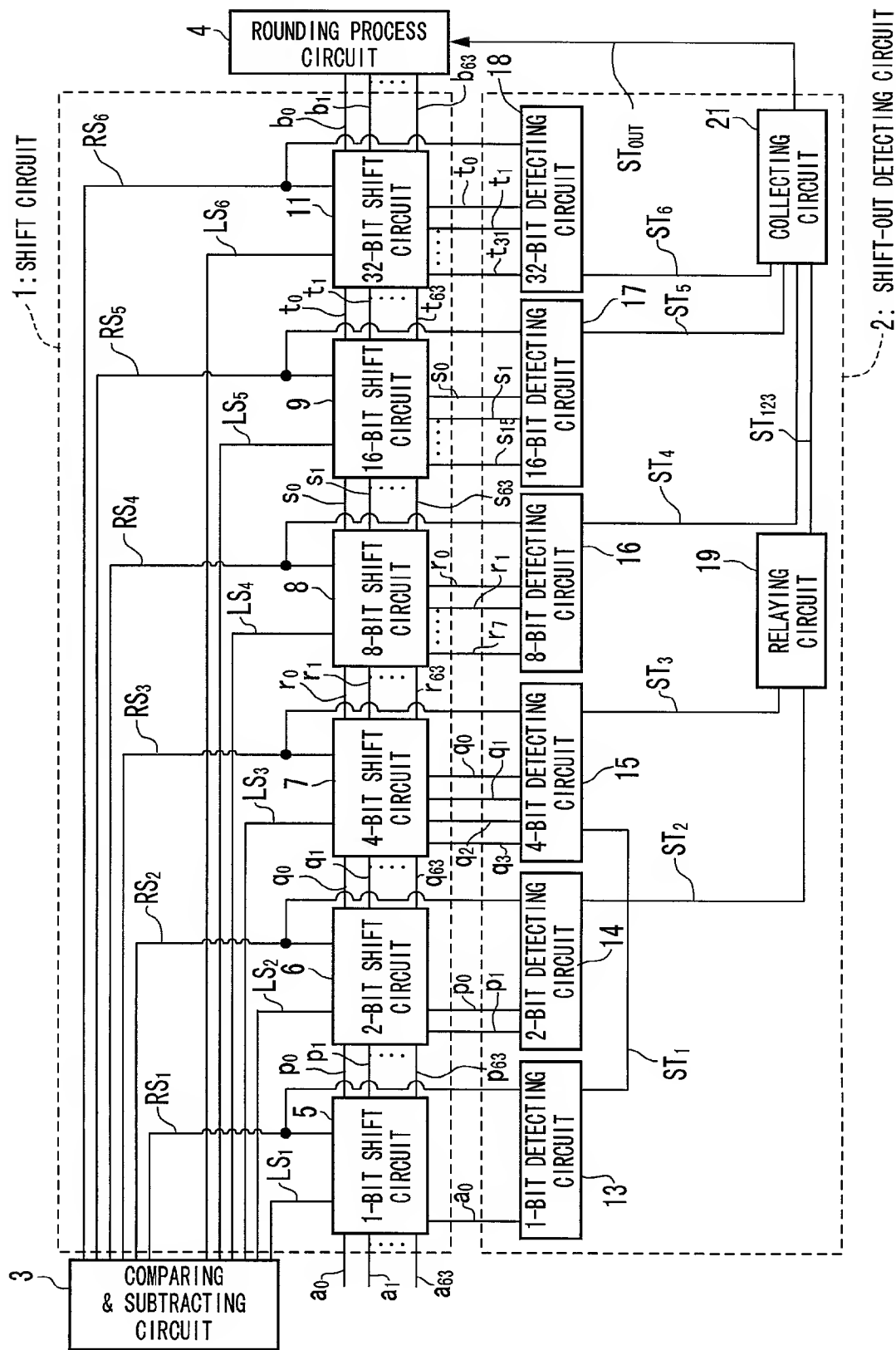
Fig. 6
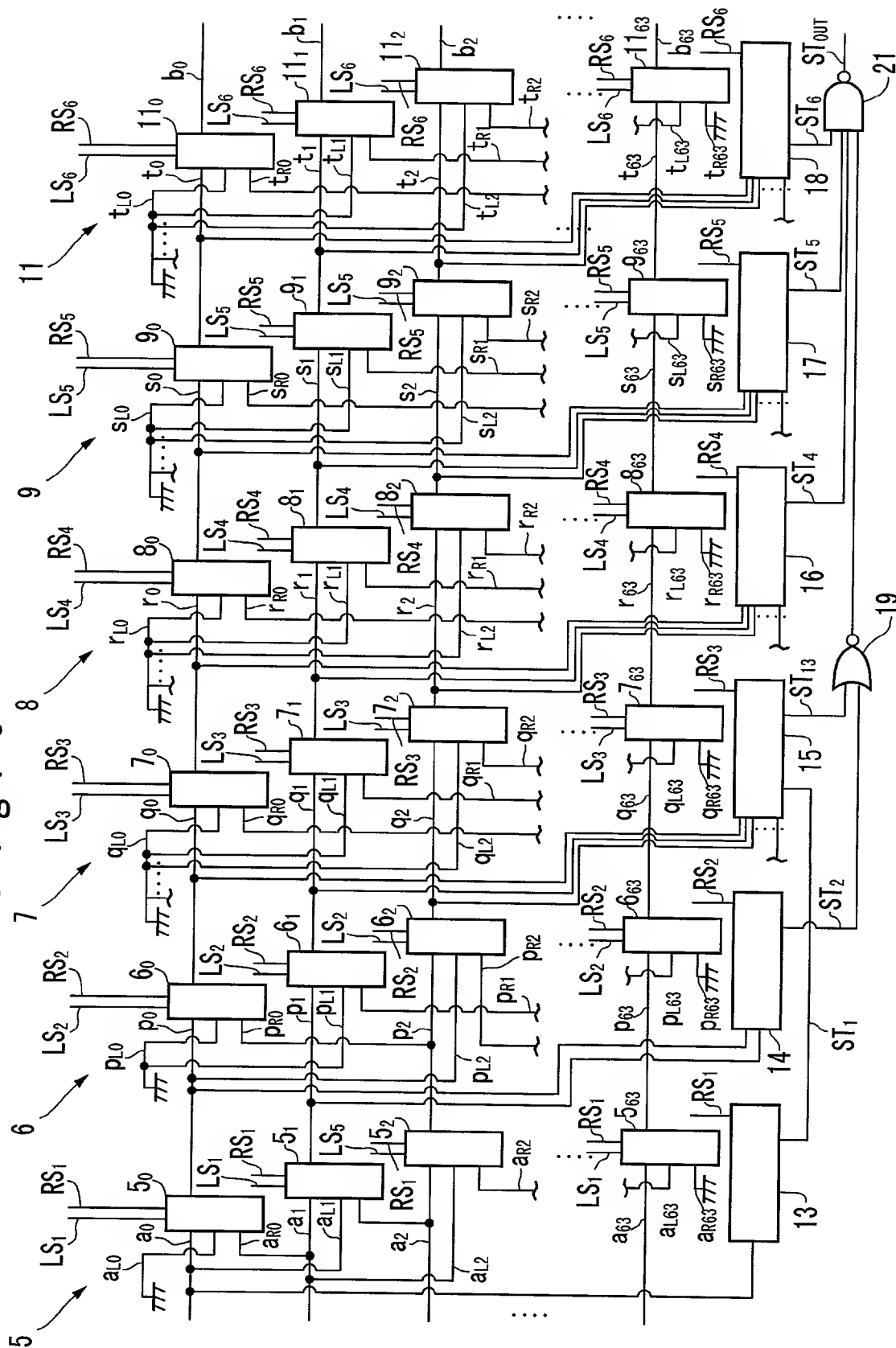
# Fig. 7
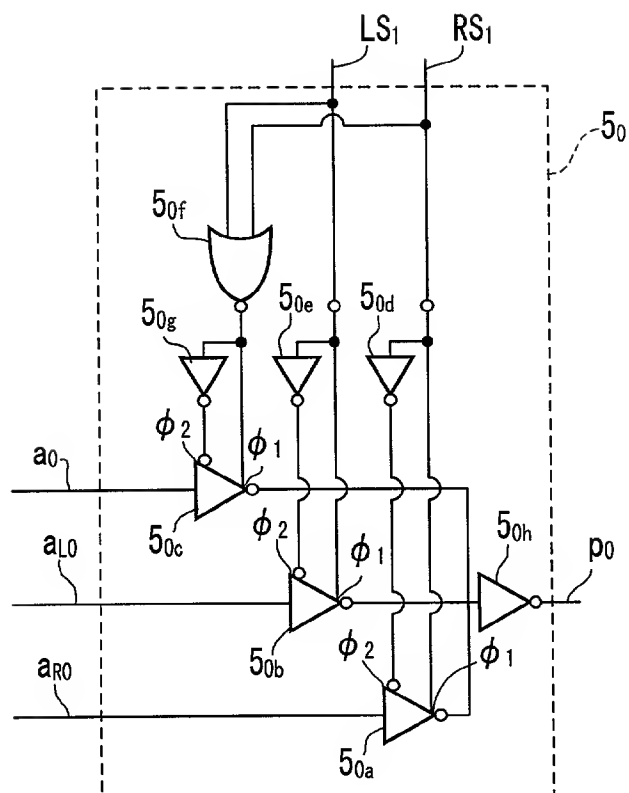


# Fig. 8
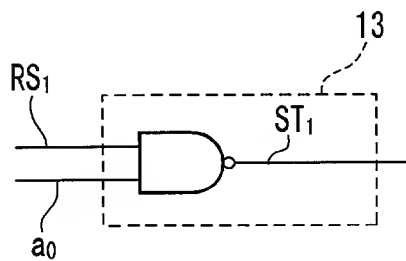
# Fig. 9
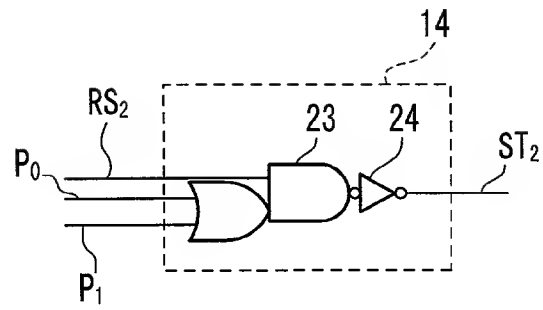


# Fig. 10
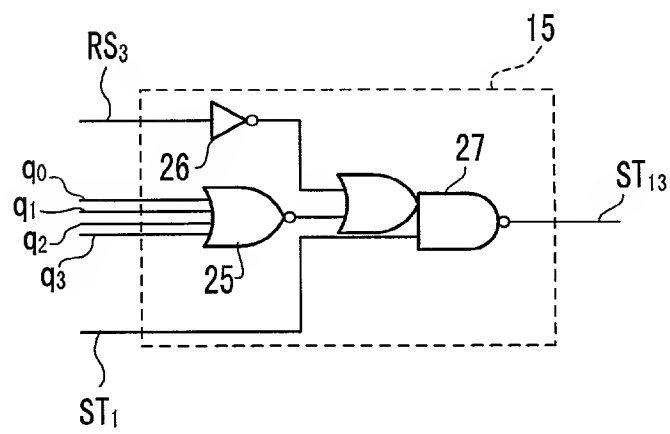
# Fig. 11



# Fig. 12

# Fig. 13

# Fig.14A

| $a_{63}$ | $a_{62}$ | $a_{61}$ | $a_{60}$ | $\cdots$ | $a_3$ | $a_2$ | $a_1$ | $a_0$ |
|------|------|------|------|------|------|------|------|------|

# Fig.14B

| 0 | $a_{63}$ | $a_{62}$ | $a_{61}$ | $\cdots$ | $a_4$ | $a_3$ | $a_2$ | $a_1$ | $a_0$ |
|------|------|------|------|------|------|------|------|------|------|

# Fig.14C

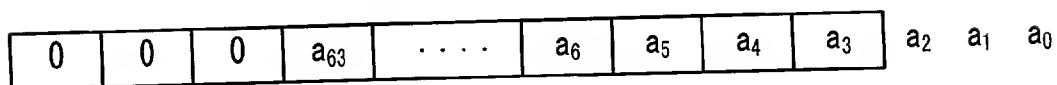| 0 | 0 | 0 | $a_{63}$ | $\cdots$ | $a_6$ | $a_5$ | $a_4$ | $a_3$ | $a_2$ | $a_1$ | $a_0$ |
|------|------|------|------|------|------|------|------|------|------|------|------|

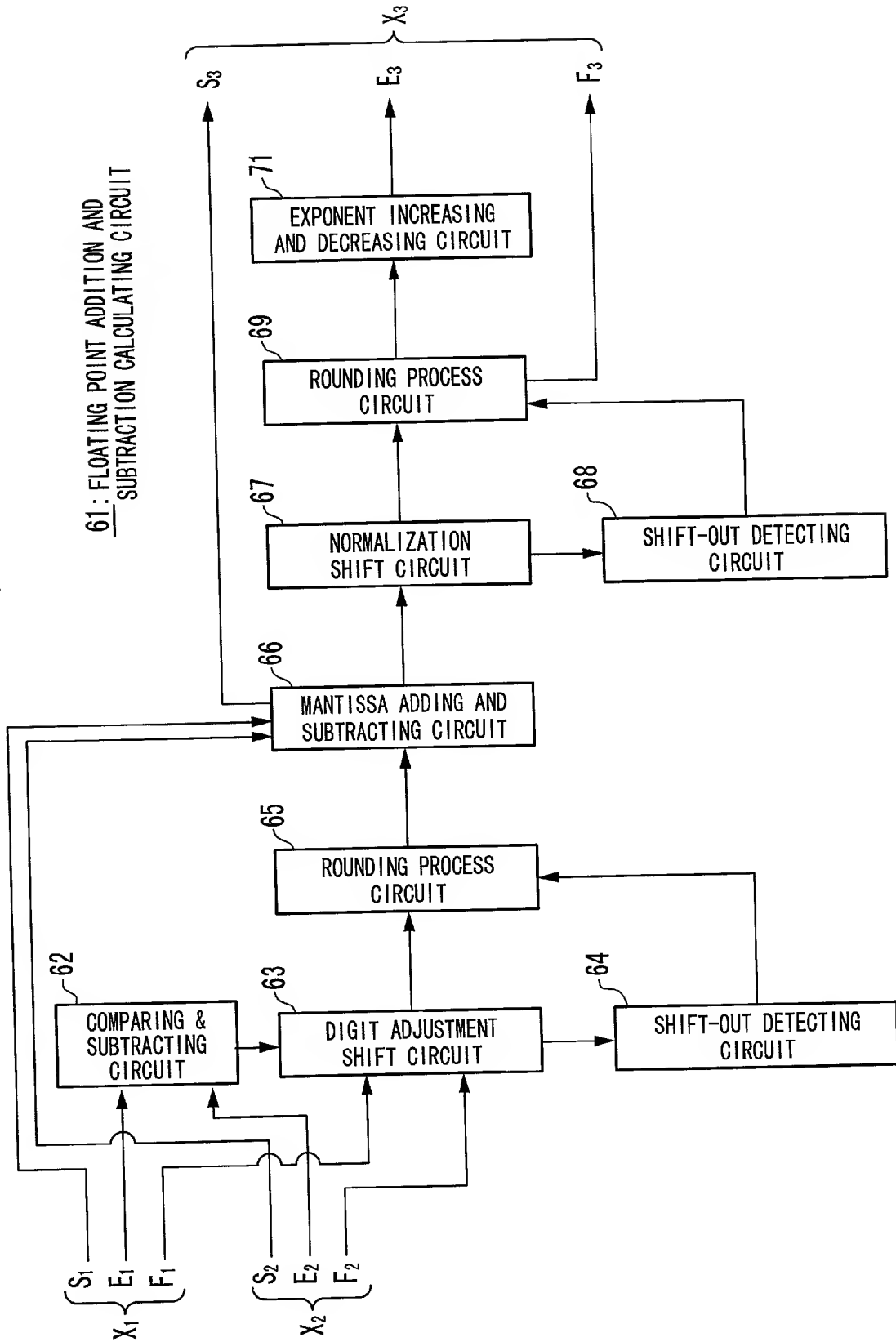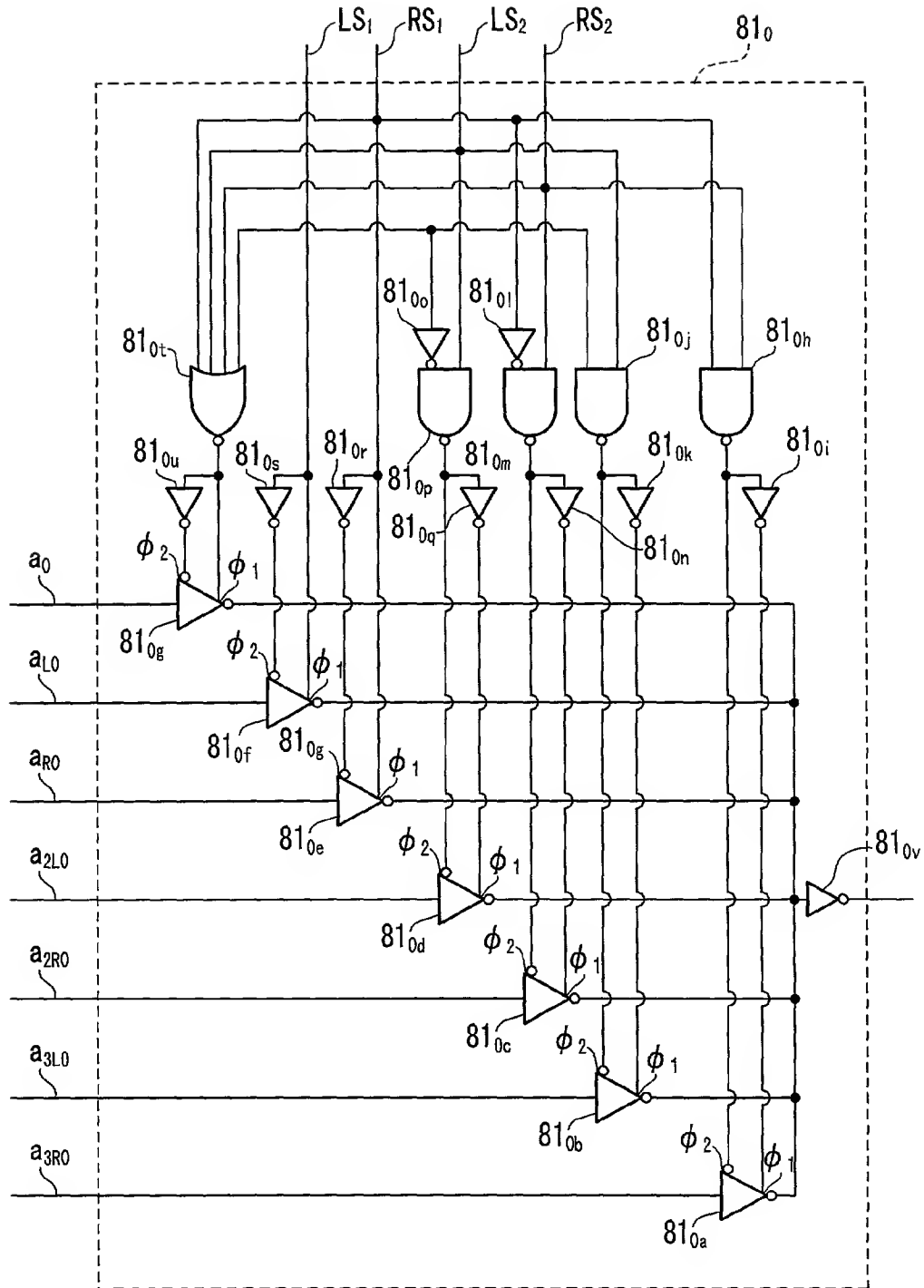# Fig. 15

61: FLOATING POINT ADDITION AND
SUBTRACTION CALCULATING CIRCUIT
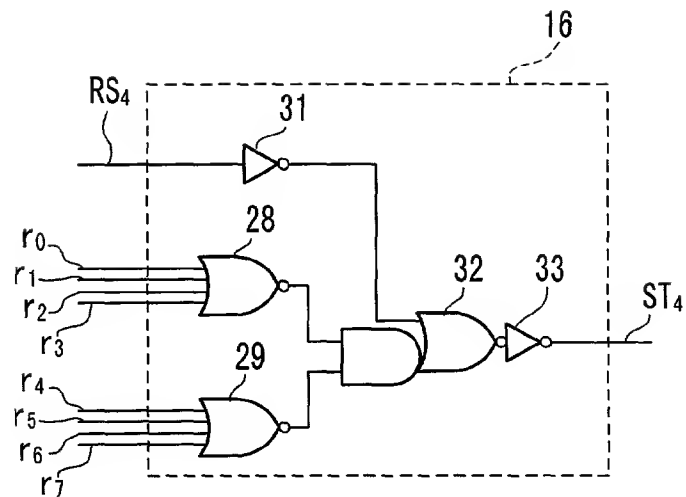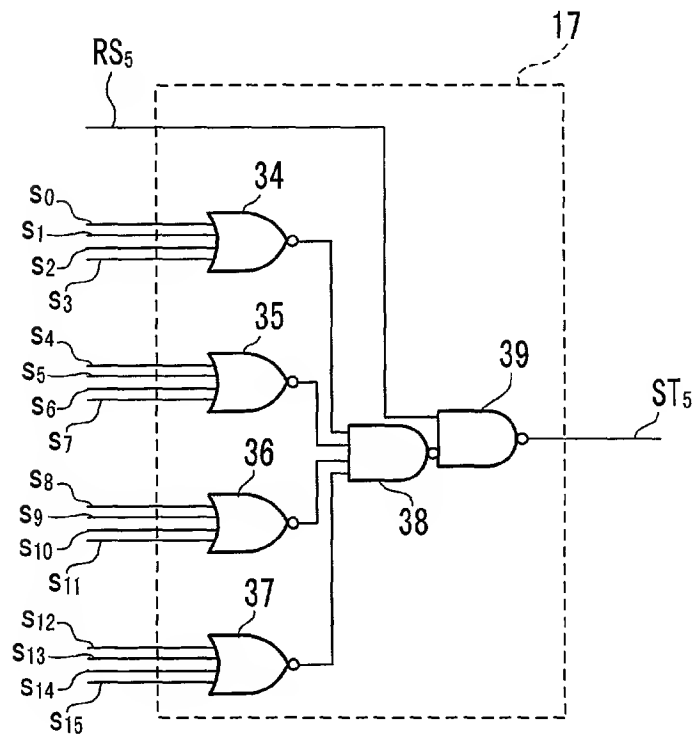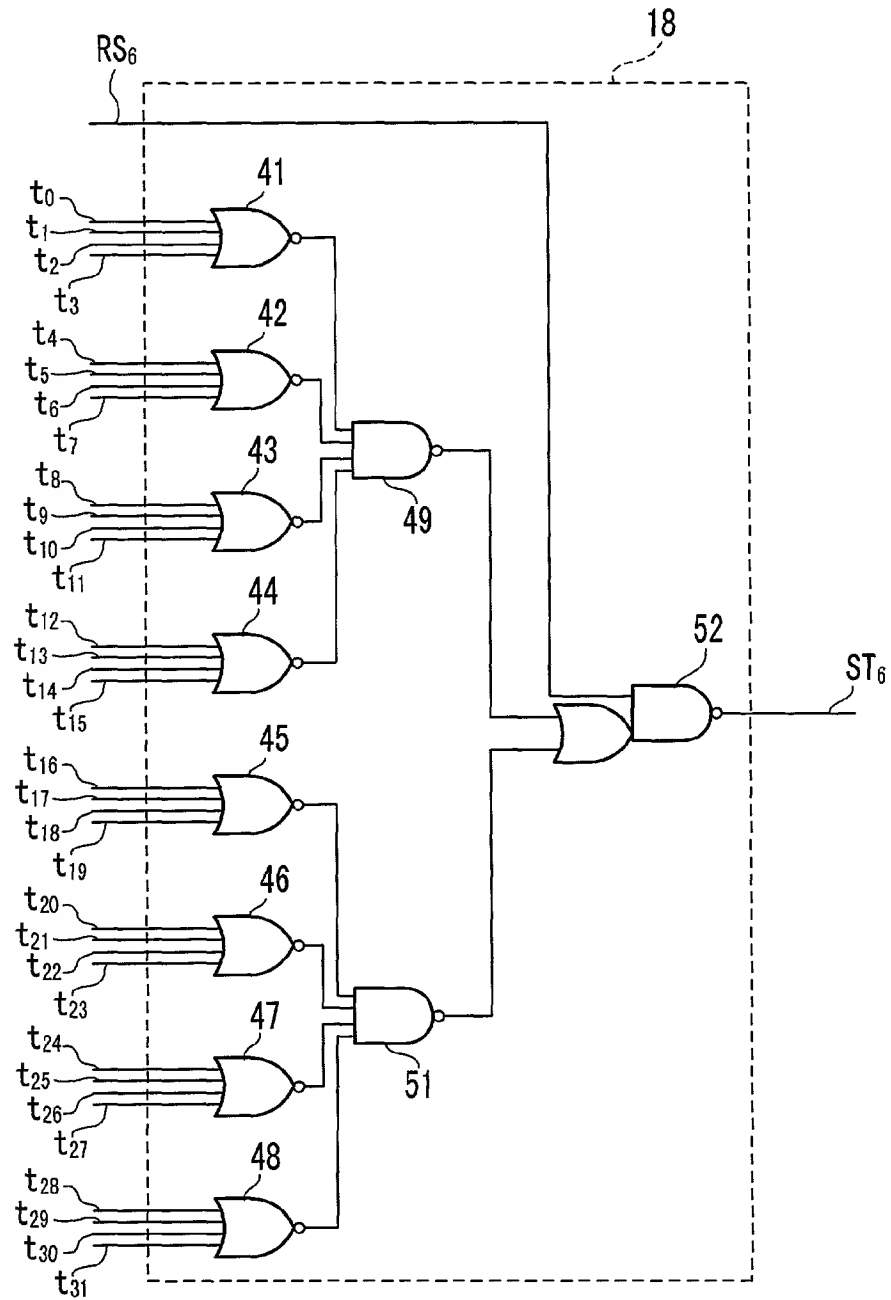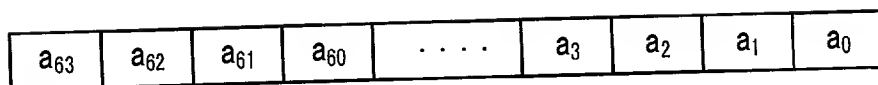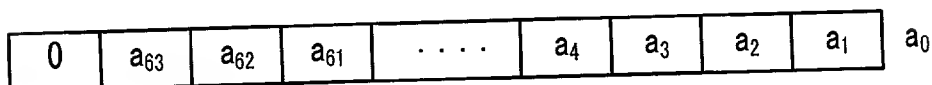
# Fig. 16

Fig. 17

Fig. 18

# Fig. 19



# Fig. 20

# Fig. 21